



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,558	02/09/2004	Leonard L. Diaddario JR.	PVOZ 2 00016	8970

27885 7590 04/19/2006

FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP
1100 SUPERIOR AVENUE, SEVENTH FLOOR
CLEVELAND, OH 44114

EXAMINER

WONG, EDNA

ART UNIT PAPER NUMBER

1753

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,558

Applicant(s)

DIADDARIO, LEONARD L.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>See "Other"</u> . | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> . |

Continuation of Attachment(s) 6). Other: August 24, 2004 and November 16, 2004.

Specification

I. The abstract of the disclosure is objected to because the word "or" should be amended to the word -- of -- in line 5. Correction is required. See MPEP § 608.01(b).

II. The disclosure is objected to because of the following informalities:

page 3, line 13, the word "or" should be amended to the word -- of --.

page 3, line 21, the word "or" should be amended to the word -- of --.

page 3, line 28, the word "or" should be amended to the word -- of --.

page 4, line 1, the word "or" should be amended to the word -- of --.

page 4, line 7, the word "or" should be amended to the word -- of --.

page 4, line 14, the word "or" should be amended to the word -- of --.

page 4, line 22, the word "or" should be amended to the word -- of --.

page 5, line 3, the word "or" should be amended to the word -- of --.

page 6, line 12, the word "or" should be amended to the word -- of --.

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claims **1and 4-8** are objected to because of the following informalities:

Claim 1

line 1, the word "An" should be amended to the word -- A --.

line 7, the word "or" should be amended to the word -- of --.

Claim 4

line 7, the word "or" should be amended to the word -- of --.

Claim 5

line 8, the word "or" should be amended to the word -- of --.

Claim 6

line 8, the word "or" should be amended to the word -- of --.

Claim 7

line 9, the word "or" should be amended to the word -- of --.

Claim 8

line 10, the word "or" should be amended to the word -- of --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

I. Claims **1-3, 5-10** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1

line 3, "the metal substrate" lacks antecedent basis.

Claim 2

line 2, it appears that "the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate" is further limiting the n-valent inorganic or organic anion recited in

Art Unit: 1753

claim 1, line 9. However, it is unclear if it is. If it is not, then what is the relationship between X^{n-} is an n-valent anion selected from the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate and X^{n-} is an n-valent inorganic or organic anion.

Furthermore, X^{n-} has two separate definitions.

line 2, the alternative expression of the Markush group is improper. MPEP § 2173.05(h). The word -- consisting -- should be inserted after the word "group".

Claim 5

line 4, "Class I brightener" is indefinite.

Claim 6

line 4, "Class II brightener" is indefinite.

Claim 7

line 4, "Class I brightener" is indefinite.

line 5, "Class II brightener" is indefinite.

Claim 8

line 5, "Class I brightener" is indefinite.

line 6, "Class II brightener" is indefinite.

Claim 9

line 2, the alternative expression of the Markush group is improper. MPEP § 2173.05(h). The word -- consisting -- should be inserted after the word "group".

Claim 10

line 2, it appears that "the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate" is further limiting the n-valent inorganic or organic anion recited in claim 4, line 9. However, it is unclear if it is. If it is not, then what is the relationship between X^{n-} is an n-valent anion selected from the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate and X^{n-} is an n-valent inorganic or organic anion.

Furthermore, X^{n-} has two separate definitions.

line 2, the alternative expression of the Markush group is improper. MPEP § 2173.05(h). The word -- consisting -- should be inserted after the word "group".

II. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the step of electrodepositing the nickel or nickel alloy on the substrate.

Claim 1, lines 1-2, the preamble recites "An process for the electrodeposition of a nickel or nickel-alloy coating on a substrate". However, the body of the claim does not recite any step of electrodepositing the nickel or nickel alloy on the substrate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

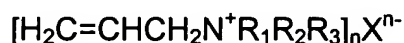
Bath

I. Claims **4 and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by **Ostrow et al.** (US Patent No. 3,133,006).

Ostrow teaches an aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

(a) nickel ions (= from $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$ and $\text{NiCl}_2 \cdot 7\text{H}_2\text{O}$) [col. 2, lines 40-41]; and

(b) an additive having the general formula:



wherein R_1 , R_2 and R_3 are selected from the functional groups consisting of hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion (= diallyl propargyl amine and triallyl propargyl

Art Unit: 1753

amine) [col. 2, lines 13-21].

X^{n-} is an n-valent anion selected from the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate (= triallyl propargyl amine chloride) [col. 2, line 68].

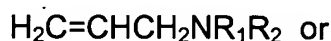
II. Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by **Ostrow et al.** (US Patent No. 3,133,006).

Ostrow teaches an aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

(a) nickel ions (= from $NiSO_4 \cdot 7H_2O$ and $NiCl_2 \cdot 7H_2O$) [col. 2, lines 40-41];

(b) at least one Class I brightener (col. 3, lines 14-24); and

(c) an additive having the general formula:



wherein R_1 , R_2 and R_3 are selected from the functional groups consisting of hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion (= diallyl propargyl amine and triallyl propargyl amine) [col. 2, lines 13-21].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Process

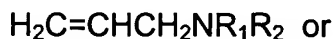
I. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ostrow et al. (US Patent No. 3,133,006) in combination with **Lowenheim**

(Electroplating, c. 1978, pp. 205-220).

Ostrow teaches a process for the electrodeposition of a nickel or nickel-alloy coating on a substrate, the process comprising:

using a bath comprising nickel ions (= from $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$ and $\text{NiCl}_2 \cdot 7\text{H}_2\text{O}$) [col. 2, lines 40-41] and an additive having the general formula:



wherein R_1 , R_2 and R_3 are selected from the functional groups consisting of hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion (= diallyl propargyl amine and triallyl propargyl amine) [col. 2, lines 13-21].

X^{n-} is an n-valent anion selected from the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate (= triallyl propargyl amine chloride) [col. 2, line 68].

The process of Ostrow differs from the instant invention because Ostrow does not disclose the following:

- a. Immersing the metal substrate in the bath, as recited in claim 1.

Ostrow teaches producing bright, smooth, and lustrous nickel deposits (col. 1, lines 8-10).

Like Ostrow, Lowenheim teaches electroplating bright nickel coatings. Lowenheim teaches that the principal application for nickel plating is a bright coating under a much thinner chromium plate to provide a lustrous and protective finish for articles of steel, brass, zinc die castings, plastics, and to some extent on aluminum and magnesium alloys (page 211, lines 22-25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process described by Ostrow by immersing a metal substrate in the bath because a bright nickel coating under a much thinner chromium plate would have provided a lustrous and protective finish for articles of steel, brass, zinc die castings, plastics, and to some extent on aluminum and magnesium alloys as taught by Lowenheim (page 211, lines 22-25).

- b. Wherein the bath further comprises alloying metal alloys, as recited in claim 3.

Lowenheim teaches that the major use of nickel is as an alloying element in a host of ferrous and nonferrous alloys (page 207, lines 35-36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the bath described by Ostrow with wherein the bath further comprises alloying metal alloys because the major use of nickel is as an alloying element in a host of ferrous and nonferrous alloys as taught by Lowenheim (page 207, lines 35-36).

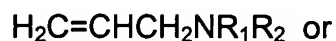
Bath

II. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ostrow et al.** (US Patent No. 3,133,006) in combination with **Lowenheim** (Electroplating, c. 1978, pp. 205-220).

Ostrow teaches an aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

(a) nickel ions (= from $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$ and $\text{NiCl}_2 \cdot 7\text{H}_2\text{O}$) [col. 2, lines 40-41]; and

(b) an additive having the general formula:



wherein R_1 , R_2 and R_3 are selected from the functional groups consisting of hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion.

The bath of Ostrow differs from the instant invention because Ostrow does not

disclose at least one Class II brightener, as recited in claim 6.

Lowenheim teaches that Class II brighteners are used in combination with those of Class I to produce fully bright, brilliant, and leveling deposits, the luster of which increases with continued plating up to the maximum obtainable (they build brightness) (page 217 and 220, "Brighteners").

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the bath described by Ostrow with at least one Class II brightener because using Class II brighteners in combination with those of Class I would have produced fully bright, brilliant, and leveling deposits, the luster of which would have increased with continued plating up to the maximum obtainable (they build brightness) as taught by Lowenheim (page 217 and 220, "Brighteners").

III. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ostrow et al.** (US Patent No. 3,133,006) in combination with **Lowenheim** (Electroplating, c. 1978, pp. 205-220).

Ostrow and Lowenheim are as applied for reasons as discussed above.

VI. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ostrow et al.** (US Patent No. 3,133,006) in combination with **Lowenheim** (Electroplating, c. 1978, pp. 205-220).

Ostrow and Lowenheim are as applied for reasons as discussed above.

The bath of Ostrow differs from the instant invention because Ostrow does not disclose wherein the alloying metal ions are selected from the group of iron, cobalt, tin, and zinc, as recited in claim 9.

Lowenheim teaches that the major use of nickel is as an alloying element in a host of ferrous and nonferrous alloys (page 207, lines 35-36).

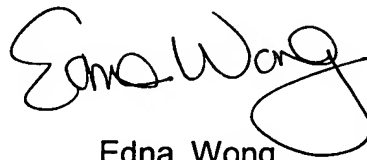
It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the bath described by Ostrow with wherein the alloying metal ions are selected from the group of iron, cobalt, tin, and zinc because the major use of nickel is as an alloying element in a host of ferrous (= iron) and nonferrous alloys as taught by Lowenheim (page 207, lines 35-36).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Edna Wong". The signature is fluid and cursive, with the first name "Edna" and last name "Wong" clearly distinguishable.

Edna Wong
Primary Examiner
Art Unit 1753

EW
April 14, 2006